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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,347	06/07/2002	Eric Atherton	FHW-101US	7913

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LAHIVE & COCKFIELD  
28 STATE STREET  
BOSTON, MA 02109

EXAMINER

OLSEN, KAJ K

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 04/23/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/069,347

Applicant(s)

ATHERTON, ERIC

Examiner

Kaj Olsen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. The claims repeatedly utilized what appears to be passive language to define the invention. However, these claims are apparatus claims and should be drawn to what the structure is and not what the structure does. For example, claim 2 specifies that the voltage is proportional to the integration of a current. Is applicant actually claiming an integrating device? Why is the invention being defined based on a voltage when the voltage is only an intended output of the apparatus? Claim 4 is indefinite for analogous reasons set forth for claim 2.
4. Claim 3 states that the current is measured by the voltage follower. However, the specification indicates that the current is being measured by an ammeter and not the voltage follower. Clarification is requested.
5. In claim 5, it is unclear what the "for application" is referring to (application of what?).

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Frenck (USP 3,788,962).
8. Frenck discloses a corrosion monitor comprising a substantially inert reference electrode 3 and a working (i.e. specimen) electrode 1 composed of the material to be monitored (col. 4, lines 50-56). Frenck also discloses a circuit 13 that controls in part the potential difference between the working and reference electrode and that comprises an amplifier 14 that is being operated as a voltage follower (i.e. it's an amplifier operated with unity gain (col. 7, lines 47-51)). With respect to the claim language stating the voltage reflects the previous values of current flowing between the electrodes, that is only the intended use of the apparatus and the intended use need not be given further due consideration in determining patentability. However, the circuit containing the amplifier 14 is feedback controlling the potential across the electrodes and receives as its input the current value from the working electrode. Hence the output of circuit 13 appears to provide a voltage that reflects the previous current flowing between the electrodes (i.e. the current before being feedback controlled to a new current).
9. With respect to claims 2 and 3, having the voltage be proportional to an integrated current, or having the current be measured by the voltage follower, is only the intended use of the apparatus and the intended use need not be given further due consideration in determining patentability.
10. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Weissstuch et al (USP 3,716,460).

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11. Weisstuch discloses a corrosion monitor comprising a pair of electrodes (110, 112) and an electronic circuit for the measurement (fig. 2). Said circuit is able to connect electrodes 110 and 112 across a capacitor 138 when switch 122 is in the lower position (see fig. 2). Capacitors inherently block DC current to zero while allowing AC currents to continue to flow. Hence the circuit of fig. 2 when switch 122 is lowered inherently constitutes a circuit that reduces DC current to essentially zero while allowing an naturally occurring AC current noise to flow unhindered as required by the claim. With respect to the AC current noise "to be monitored", that is only the intended use of the apparatus and the intended use need not be given further due consideration in determining patentability.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-3, 7, 8 and 10 are rejected under 35 U.S.C. 103(a) as obvious over Weisstuch in view of Jovancicevic (USP 6,280,603).

14. Weisstuch discloses a corrosion monitor comprising a reference electrode (12, 112) and a working electrode (10, 110) constructed out of a material to be monitored (col. 4, lines 40-44). Weisstuch also discloses a voltage follower (18, 118) which is being utilized to control the voltage being applied between the electrodes (fig. 1 and 2). With respect to the voltage reflecting the previous value of the current flowing between the electrodes, that is only the

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intended use of the apparatus and the intended use need not be given further due consideration in determining patentability. However, the examiner is of the opinion that the potentiostatic feedback control between the reference and working electrodes already constitutes a circuit that reads on those limitations even if they were given further due consideration (see discussion above for Frenck). With respect to the reference electrode being substantially inert, Weisstuch never explicitly teaches this element (although the reference does identify only the working electrode as being corrodible (col. 4, lines 41-44). However, Jovancicevic discloses in an alternate corrosion meter that the reference electrode be preferably constructed out of inert material (col. 3, lines 37-41). The use of an inert reference electrode would prevent the reference electrode from limiting the life of the corrosion monitor, it would have been obvious to one of ordinary skill in the art at the time the invention was being made to utilize the teaching of Jovancicevic for the corrosion monitor of Weisstuch in order to prevent premature failure of the electrode system.

15. With respect to claims 2 and 3, having the voltage be proportional to an integrated current, or having the current be measured by the voltage follower, is only the intended use of the apparatus and the intended use need not be given further due consideration in determining patentability.

16. With respect to claim 7, Weisstuch taught all the limitations of the claim (see rejection above for claim 6), but did not explicitly teach the use of an inert reference electrode (although the reference does identify only the working electrode as being corrodible (col. 4, lines 41-44). However, Jovancicevic discloses in an alternate corrosion meter that the reference electrode be preferably constructed out of inert material (col. 3, lines 37-41). The use of an inert reference

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electrode would prevent the reference electrode from limiting the life of the corrosion monitor, it would have been obvious to one of ordinary skill in the art at the time the invention was being made to utilize the teaching of Jovancevic for the corrosion monitor of Weisstuch in order to prevent premature failure of the electrode system.

17. With respect to claims 8 and 10, see Jovancevic, col. 3, lines 26-37.

18. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frenck in view of Jovancevic.

19. Frenck set forth all the limitations of claim 10 and taught the use of a third (i.e. auxiliary) electrode, but did not explicitly teach the use of a substantially inert material for this third electrode. However, Jovancevic discloses in an alternate corrosion meter that the auxiliary (i.e. the counter) electrode be preferably constructed out of inert material (col. 3, lines 26-37). The use of an inert counter electrode would prevent this electrode from limiting the life of the corrosion monitor, it would have been obvious to one of ordinary skill in the art at the time the invention was being made to utilize the teaching of Jovancevic for the corrosion monitor of Frenck in order to prevent premature failure of the electrode system.

***Allowable Subject Matter***

20. Claims 4 and 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

21. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose nor render obvious a corrosion monitor comprising all the

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limitations of claim 3 and further specifying that the output of the voltage follower be introduced to an integration circuit.

### *Conclusion*

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kanno and Wilson also set forth the use of voltage followers for the corrosion monitoring circuit.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaj Olsen whose telephone number is (703) 305-0506. The examiner can normally be reached on Monday through Thursday from 7:00 AM-4:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Mr. Nam Nguyen, can be reached at (703) 308-3322.

When filing a fax in Group 1700, please indicate in the header "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of this application. This will expedite processing of your papers. The fax number for regular communications is (703) 305-3599 and the fax number for after-final communications is (703) 305-5408.



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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to read 'Kaj K. Olsen', with a long, sweeping horizontal line extending to the right.

Kaj K. Olsen  
Patent Examiner  
AU 1753  
April 19, 2003